How to Know and Have Good Lighting

Indirect Lighting

How to Know and Have Good Lighting

Dedicated to all those
who realize the need
of better lighting

Every Lighting Fixture, Art Lamp, Pedestal and Wall Urn
Shown in This Book Contains X-Ray Reflectors

National X-Ray Reflector Co.

CHICAGO:
235 W. Jackson Boulevard

NEW YORK:
21 West 46th Street

X-Ray Indirect Lighting
from art lamp

X-Ray Indirect Lighting
from ceiling fixture

All photographs in this book were made after dark, without flashlight, and were not "retouched." They faithfully reproduce the exact lighting effect.

WHEN we compare the conditions under which our grandparents lived and worked with our own, we marvel at the great advance in material comforts which has taken place in recent years. The telephone, the telegraph, the motor car, electrical devices of all sorts, improved transportation, all show how much we have gone forward.

Three things are probably of greatest importance to us in our homes, our places of business and of recreation—the lighting, the heating and the ventilation. Think what it means to us to have heat absolutely regulated to the desired temperature and evenly distributed throughout the room, in place of stove heat and the resulting extremes of heat and cold in the room. Think how much better it is for our health to have—in place of "air-tight," germ-filled rooms—churches, theaters, and schools where the air is constantly changed, washed, and heated or cooled to just the right temperature.

Then contrast with these conditions the fact that—in spite of the marvelous improvements which recent years have seen in lighting methods, in spite of the wonderful electric bulbs which outstrip anything we ever dreamed in power and terrific brilliance—in spite of all this, lighting has been unmistakably *wrong*. It has erred in either one of two directions, over-brilliancy or inadequacy.

Usual lighting effect of an art lamp

Lighting effect of same lamp equipped with X-Ray reflector

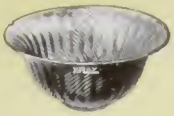
THE reason for this has been that most people really know very little about good light. Illumination is a science, and as yet we have not been educated to understand this fact and act upon it.

This important matter of illumination has been left to manufacturers of chandeliers—successors to gas fixture makers—who depend upon design of fixtures instead of quality of light. They have largely failed to keep pace with the development of the lighting unit from gas and the first carbon filament electric lamps to the modern incandescent lighting unit of a thousand times the brilliancy.

The two standards by which the average person judges lighting are brilliancy of illumination or beauty of fixtures. These two false standards are the basis of the condition which now confronts us—the alarming increase in the wearing of glasses and the prevalence of headaches, 60% of which specialists say are due to poor light. *There* is the big cause—wrong illumination. When people know that the only real standard for judging light is its effect upon the eyes, then we will have *right illumination*. When they understand that the eye is an exceedingly delicate organ, that its nerves are so sensitive that even a small amount of excessive light will injure them or a few hours of work under inadequate light do great damage, all illumination will be based primarily upon the eye and its needs.

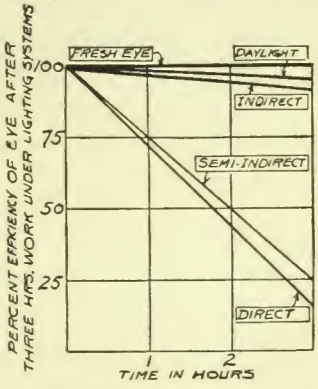
X-Ray Indirect Lighting
in offices of Curtis Publishing Co.,
Philadelphia

X-Ray Indirect Lighting in
offices of Old Colony Trust Co., Boston



THEN the amount of light and the kind of light will be decided from this knowledge, and the design of the fixtures will be considered only after the quality of the light is known to be right.

Within the past few years a great and important work has been undertaken by scientists in behalf of good lighting. These men have tested the human eye under all sorts of conditions to discover what lighting is best. Prominent among these scientists who are working to save our eyes is Prof. C. E. Ferree, of Philadelphia. He has made a series of tests of the eye under different kinds of illumination—daylight, indirect lighting, semi-direct and exposed filament direct lighting.



He found that after three hours' work under daylight the eye lost practically nothing in seeing efficiency. Under indirect lighting the effect was almost the same; the eye was 91% efficient in seeing ability. But under exposed direct or semi-direct lighting the loss in seeing efficiency was enormous; the remaining efficiency only 25% with semi-direct and 14% with direct.

Think of it! Only 14% to 25% of the eye's efficiency, or ability to see clearly and comfortably, remains after three hours' work under exposed direct or semi-direct illumination. This appalling loss shows instantly why eyesight is so generally impaired and glasses so universally needed.

Glaring Direct Lighting
in Postoffice, Malmo, Sweden

Same room illuminated
with X-Ray Indirect Lighting

COMPARE with this the result of work under indirect light. After the same period of time the eye had lost very little, scarcely any more than resulted from work under daylight. In other words, indirect lighting is almost daylight in its effect on the eyes—77% better than exposed direct lighting, 66% better than semi-direct. Science has conclusively demonstrated that, if we would preserve our eyesight, our lighting must be from concealed sources.

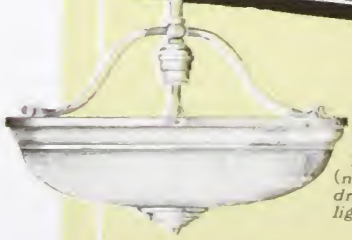
The human eye cannot endure excessive light. That is why we suffer from snow-blindness on sunny winter days; and why arctic travelers all wear opaque goggles pierced only with a tiny hole, to prevent total blindness. Direct rays of light from an exposed electric lamp are too intense; affect the eye in much the same way. Indirect lighting eliminates direct rays. The light is directed against the ceiling and, instead of coming down in intense shafts of light, is reflected from many angles in soft, even, eye-resting illumination. The best light—the light that great painters and photographers use—is the diffused daylight which enters the room through a north skylight. Indirect lighting is exactly this kind of light.

The difference between exposed direct and indirect illumination is like the difference between a single overpoweringly strong stream of water from a hose and a fine, gentle spray of water from the same nozzle.

Direct Lighting in offices of German-American Ins. Co., Chicago

Same office with X-Ray Indirect Lighting (note each X-Ray fixture replaced seven chandeliers)

Direct Lighting in offices of Santa Fe Railroad, Chicago



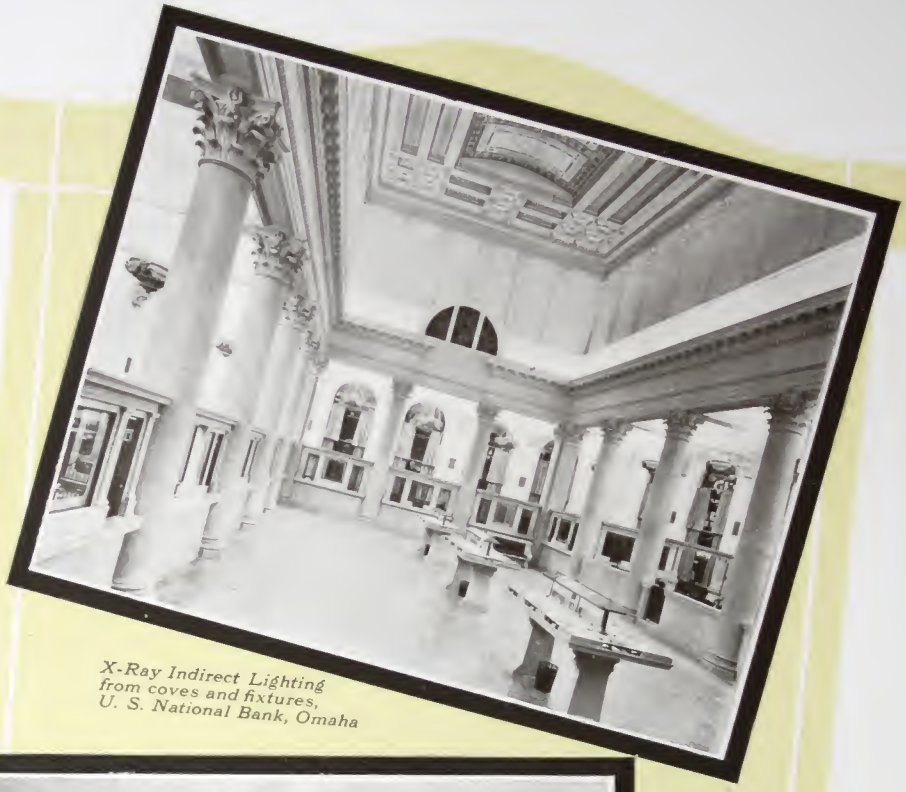
Same office with X-Ray Indirect Lighting (note absence of drop cords, desk lights and glare)

THE heavy stream of water tears up your lawn or flowers; the gentle spray helps them thrive. It is the same stream of water, differently controlled. In one instance it destroys; in the other it benefits. So it is with direct—or semi-direct—lighting and indirect. The powerful glare injures sight; the softened, evenly diffused illumination is restful and soothing.

Besides the harmful glare of direct light rays, exposed direct and semi-direct lighting have another equally injurious feature in the bright spot of light they both produce. What the effect of such a spot intensified is upon the eye can be seen by looking directly at the sun. Momentary blindness results; the eyes' ability to see has been temporarily paralyzed by the blinding light.

When any spot of bright light is within the range of vision the eye is affected in the same way; contracts to keep out excessive light. The result is that it does not see easily any other object in the range of vision. The more dazzling the spot of light, the more illumination the room requires for comfortable seeing. The increased light, however, merely renders the "spot" more glaring, thus defeating its own purpose.

Semi-direct lighting seeks to overcome this partially by directing part of the light rays toward the ceiling.



X-Ray Indirect Lighting
from coves and fixtures,
U. S. National Bank, Omaha

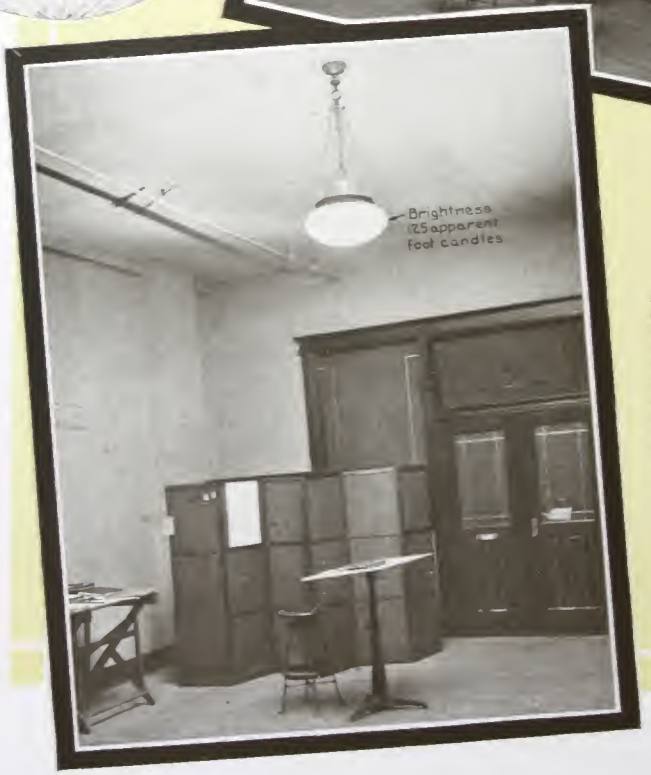
X-Ray Indirect Lighting
from top of cages,
Capitol Savings Bank, Chicago

THE glass bowl, however, is not an efficient enough reflecting surface to produce adequate illumination from reflected rays, and a large portion of the light still streams through the bowl—direct light. To decrease the amount of light in the fixture, in an effort to overcome the bright spot, would be to render the lighting extremely dim.

The one way to secure *adequate reflected light* is by means of the X-Ray Reflector. It is the corner-stone of indirect illumination. This powerful reflector is made of corrugated glass, silver-plated. As all of us know, who as youngsters annoyed the teacher by throwing spots of sunlight about the room, a mirror is the best reflecting surface known. Porcelain or glass would have been far less effective, because they reflect far less light. X-Ray Reflectors are mirrors, reflecting the maximum amount of light. By their use a greater illumination is obtained with less current than is possible with enameled steel, plain glass or any other substance.

In addition, they are designed in accordance with the laws of reflected light. Light travels in straight lines. By following this principle and rightly shaping the reflector, the light rays are controlled and distributed with absolute accuracy. The corrugated surface breaks up the light rays and diffuses them evenly—like a fine spray—over the ceiling and throughout the room.

Same fixture with and without X-Ray Reflector



Note greatly decreased glare, better diffusion of light, absence of harsh shadows and artistic lighting of bowl when X-Ray Reflectors are used

THE result is ample illumination without any of the usual lighting faults, glaring spots of light, dark, ill-lighted corners, harsh shadows.

Because such remarkably good lighting has been obtained with X-Ray Reflectors, and because the reflectors are not visible in the fixture, many people have the wrong impression that merely placing a light in a hanging bowl will give true indirect lighting. A great deal of poor lighting has resulted from this misunderstanding. When you know that X-Ray Reflectors are the basis for all good indirect lighting you see, you will not be led into believing that you can obtain the same lighting effect without them. This you can easily demonstrate by taking the same fixture—the same bowl—used for X-Ray lighting and leaving out the reflector. The result is so entirely different—so surprisingly inferior—that you will instantly recognize that *you must have X-Ray Reflectors to get X-Ray Lighting.*

Your fixture may be the most beautiful in the world. If it does not contain the X-Ray Reflector it falls short of the best lighting. Yet the simplest kind of fixture will produce the finest lighting obtainable—if it contains an X-Ray Reflector. That is the basic principle of indirect lighting. Not the fixtures, but the X-Ray Reflector makes lighting good.

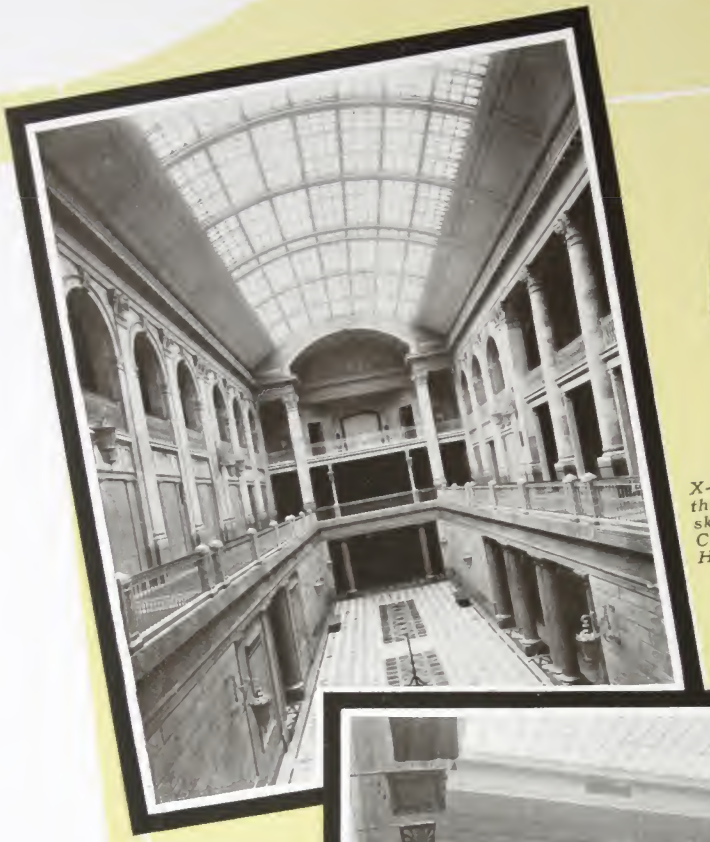
X-Ray Indirect Lighting from wall brackets, Hotel Raddison, Minneapolis

X-Ray Indirect Lighting from pedestals, Congress Hotel, Chicago

X-Ray Cove Lighting for Restaurants

INDIRECT illumination from other than fixtures suspended from the ceiling is a new and exceptionally beautiful lighting method, made practicable by Mr. Augustus D. Curtis, the President of the X-Ray Reflector Company. Its introduction marks a new era in artistic lighting. This type of illumination has been worked out most successfully with X-Ray Reflectors. The light obtained in this way is unusually efficient and easily controlled. It can be handled in any number of ways for decorative purposes and still give ample, evenly diffused illumination. The light source may be entirely concealed in X-Ray Reflectors placed in cornices or coves about the room; it may be hidden in wall brackets, in decorative urns or pedestals, in art lamps—in every instance the illumination is still the wonderful eye-satisfying X-Ray Lighting. The charm and novelty of this type of illumination recommends it to everyone who wants lighting that is out of the ordinary. Its application is limited only by the ingenuity of the architect, designer or engineer. This method of lighting is meeting with such favor that it will be interesting ten years from now to look back and see its wonderful development and the many novel ways in which it is utilized.

Another point: Consider your lighting from the standpoint of the future. Electric lamps are steadily growing more powerful; the same current gives you six or eight times as much light as it did a few years ago.



X-Ray Lighting through skylight, atrium, City Hall, Hartford, Conn.

X-Ray Lighting through skylight, Cleveland Museum of Art

AND this is only the beginning. Whole laboratories of scientists are constantly at work to render lights more intensely brilliant and concentrated. This growing intensity has become such a serious matter that in several states the legislatures have taken under consideration the prohibition by law of such lamps unshaded. Already in Pennsylvania and New Jersey the law requires that lights in factories must be properly shaded—that the lighting must be "illumination from concealed sources."

What does this mean to the buyer of lighting fixtures? It means that any exposed direct or semi-direct fixture which he installs today will be totally inadequate in a few years. The intense glare of these powerful new lamps cannot be overcome by such fixtures. In a very short time the equipment, regardless of its cost or its beauty, will have to be discarded—discarded in favor of the only system which can utilize, without glare or without extravagant waste of current, the intensely brilliant lights soon to be in general use. That system is X-Ray Indirect Lighting.

No matter how powerful lamps become, X-Ray Lighting will protect your eyes. It absolutely eliminates strong, direct rays of light, and the harsh glare which always results from such illumination. By inverting the rays and diffusing them softly and evenly throughout the room, it overcomes the one bad feature of the most powerful lamps—their too-intense, eye-destroying brilliancy.

X-Ray Indirect Lighting,
L. S. Ayres & Co., Indianapolis

X-Ray Indirect Lighting,
Chas. A. Stevens & Bros., Chicago
(Note X-Ray Show Case Lighting)

IT makes possible the employment of these concentrated lights, which greatly decrease current cost, without injury to eyesight.

Nor need the one attractive feature of direct or semi-direct lighting, the luminous bowl, be lost by employing X-Ray Lighting. This beautiful feature of lighting has probably caused more errors in selecting illumination than any other one thing. The eye craves a visible light source, a soft glow from an exquisitely decorated or artistically colored bowl. The charm of these beautiful fixtures has misled many of us into thinking that because the bowl in its shape, coloring or decoration pleased the eye, the lighting was satisfactory. We have not had the scientific training which would show us that practically every one of these bowls covered a wholly wrong method of lighting —that the illumination derived from them was either so intense that our eyes were losing three-fourths of their efficiency from the blinding light, or so subdued that our eyes were strained in an effort to see. Instead, we went to see the oculist and had glasses fitted which Nature never intended us to use.

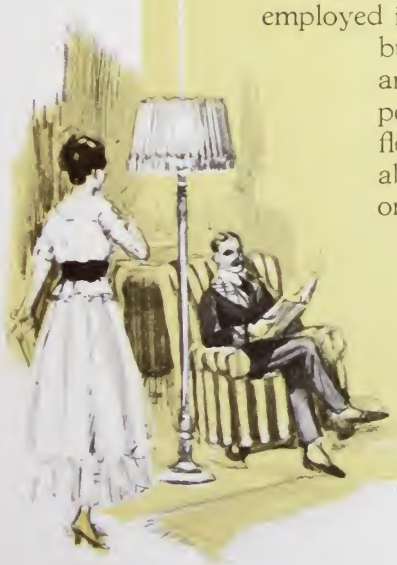
Although sometimes called so, semi-direct lighting is not indirect lighting. It is merely modified direct lighting. Prof. Ferree has shown that to get sufficient lighting in the room the bowl must be illuminated to such an intensity that it defeats the object of its use—its brilliancy destroys the decorative effect of the bowl and handicaps the eye in seeing.

X-Ray Indirect
Lighting, men's lounge,
Palace Theatre, Milwaukee

X-Ray Indirect
Lighting, ballroom,
South Shore Country Club, Chicago

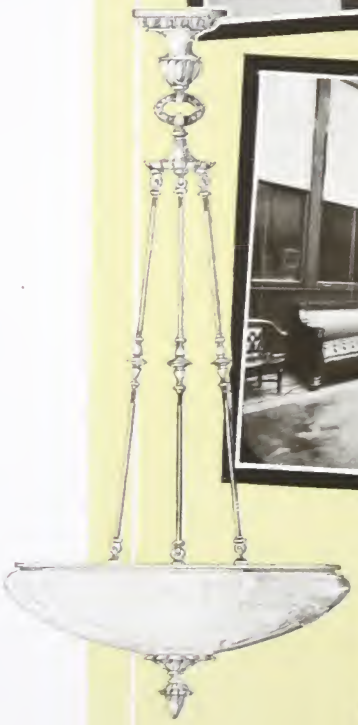
WITH X-Ray Lighting all these eye-harming results are banished—and the beautiful luminous bowls are retained. These bowls are not, however, used as a light source. The rays are reflected to the ceiling by the X-Ray Reflectors inside the bowl. The bowl is merely softly illuminated either by small auxiliary lights or by a cleverly designed "diffuser" set in the bottom of the reflector to give the glow of light and color our aesthetic tastes demand. This use of the light rays is entirely different from direct or semi-direct; utilizing the good features and abolishing the bad; combining the highest degree of efficient lighting with the most beautiful of lighting fixtures.

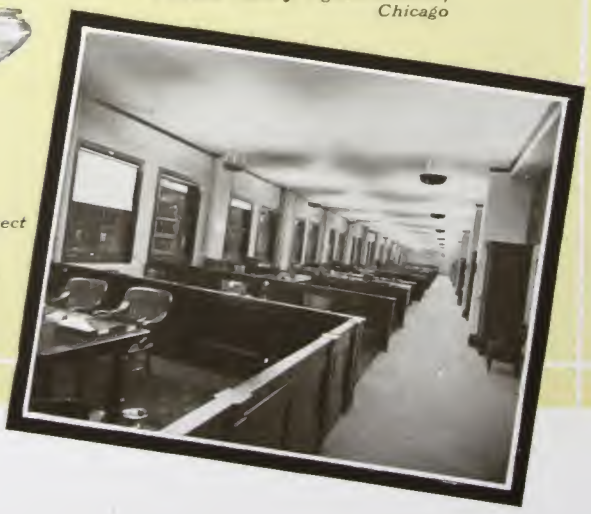
Having, then, secured a lighting which approaches the ideal in beauty and efficiency, how adaptable is it to the varied needs of different lighting conditions? The answer will be found in the hundreds of beautiful churches, finely equipped offices, expensive clubs, up-to-date hospitals, luxurious homes and well-lighted theaters, stores, banks, hotels, libraries and public buildings where X-Ray Lighting is now installed. Not only is it employed in the usual opaque or luminous bowls, but charmingly beautiful lighting effects are secured from other concealed sources, pedestals, urns, coves, wall brackets and floor lamps. X-Ray Lighting is adaptable to practically any lighting scheme or arrangement.



X-Ray Indirect Lighting,
American Seating Co., Chicago

X-Ray Indirect Lighting,
Private Office J. Ogden Armour,
Chicago





X-Ray Indirect
Lighting,
U. S. Steel
Corporation,
Chicago

PERHAPS the most severe tests that a lighting system has to meet come from great corporations, in whose employ are engineers and efficiency experts to pass on all equipment, and by rigid competitive tests decide the one to be installed. In such instances, X-Ray Lighting has come out triumphant in competition with direct or semi-direct lighting systems. The Curtis Publishing Company, for example, the great institution noted as a model of efficiency in building and equipment, made a series of competitive tests extending over a period of sixteen months. At the end of this time they installed X-Ray Lighting throughout the entire building, after the two hundred employes in the department where the different systems were tried out voted unanimously for X-Ray Lighting. Among other prominent users are:

Armour & Co., Chicago
Delaware & Hudson Bldg., Albany, N. Y.
Internat'l Correspondence Schools, Scranton, Pa.
Victor Talking Machine Co., Camden, N. J.
Queen & Crescent R. R. Bldg., New Orleans, La.
Detroit News Bldg., Detroit, Mich.
Pennsylvania Lines, Philadelphia, Pa.
American Radiator Co., Chicago, Ill.
Goodyear Tire and Rubber Co., Akron, Ohio
American Car & Foundry Co., New York
Hyatt Roller Bearing Co., Detroit
Northwestern Mutual Life Ins. Co., Milwaukee
Sears, Roebuck & Co., Chicago
Baltimore & Ohio Railroad
Stewart Warner Speedometer Company, Chicago
American Can Company, Chicago
Nelson Matter Furniture Co., Grand Rapids
Calumet Baking Powder Co., Chicago
American Lithographing Company, New York
Illinois Steel Company, Chicago
Libby, McNeil & Libby, Chicago

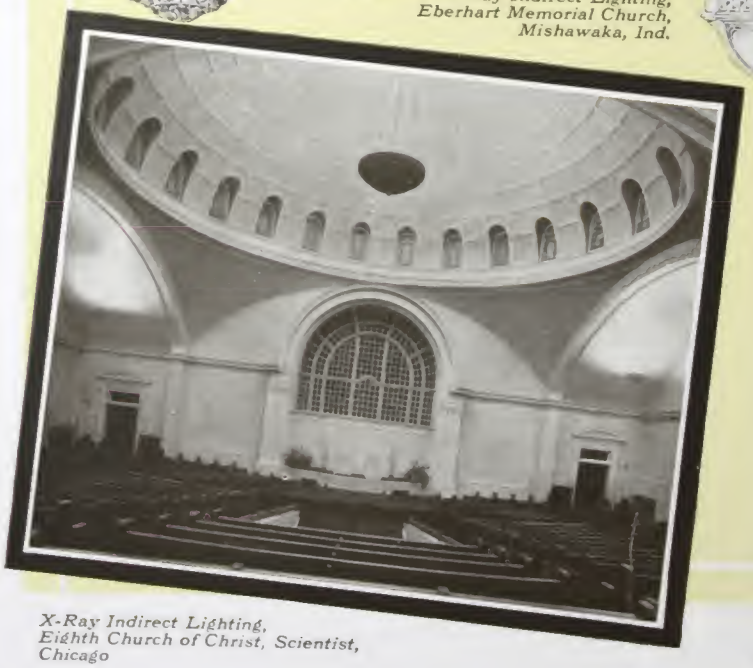
South Shore Country Club, Chicago, showing effective floral decoration of lighting pedestal (day view)

X-Ray Indirect Lighting, Union League Club, Chicago

THE deciding factor with great business concerns is the efficiency of the light. X-Ray Lighting has won on that score. On the basis of beauty and artistic value, it has stood as high. In richly appointed clubs, where harmonious furnishings are the paramount consideration, this lighting has been chosen. In the South Shore Country Club at Chicago, one of the largest and finest country clubs in the country, this charming illumination, concealed in artistically designed pedestals, is installed in the lounge and ball room. It is also lighting, in part or entirely, the following:

Colony Club, New York City
Bankers' Club, New York City
University Club, Cleveland, Ohio
Illinois Athletic Club, Chicago
Country Club, Norfolk, Virginia
Knickerbocker Club, New York City
University Club, Milwaukee, Wis.
Penn Club, Philadelphia, Pa.
Chicago Athletic Club, Chicago
Whist Club, New York City
Union League Club, Chicago
Cloister Club, New Haven
Ottawa Curling Club, Ottawa, Ontario
W. D. Luckie Masonic Lodge, Atlanta
Scottish Rite Temple, Kansas City
Ohio Club, Akron, Ohio
Masonic Temple, Salem, Mass.
Scottish Rite Temple, Omaha, Neb.
Cumberland Lodge, Masonic Temple, Nashville.
Elks' Club, Juneau, Alaska
Y. W. C. A., Van Wert, Ohio
Deutscher Club, Milwaukee
Y. M. C. A., Canton, Ohio

X-Ray Indirect Lighting,
Eberhart Memorial Church,
Mishawaka, Ind.



X-Ray Indirect Lighting,
Eighth Church of Christ, Scientist,
Chicago

IN churches much depends upon the beauty and appropriateness of the lighting. X-Ray Lighting has met this need by its fixtures especially designed for varied conditions, and in addition has provided the restful illumination which banishes the nervous inattention of an audience blinded by excessive light. It produces an atmosphere of calm and quiet which should be found in every house of worship. In nearly every instance in which a church committee investigates X-Ray Lighting, it is installed. During the past four years approximately eight hundred churches have installed this harmonious method of lighting from concealed sources. Among them may be mentioned:

Timothy Eaton Memorial, Toronto, Canada
First Church of Christ, Scientist, Baltimore
Catholic Cathedral of Imm. Con., Denver, Colo.
First Church of Christ, Scientist, Ottawa, Canada
St. Helena Cathedral, Helena, Mont.
First Presbyterian, New Orleans, La.
Methodist Episcopal, Ticonderoga, N. Y.
First Lutheran, Jamestown, N. Y.
St. James R. C., Louisville, Ky.
Malden Baptist, Malden, Mass.
First M. E., Jamestown, N. Y.
Our Lady of Lourdes, Chicago
Eighth Church of Christ, Scientist, Chicago
St. Cyril's, Chicago
Eberhardt Memorial Church, Mishawaka, Ind.
Douglas Ave. M. E., Springfield, Ill.
Achduth Vesholom Temple, Ft. Wayne, Ind.
St. James Episcopal, Zanesville, Ohio
St. Aedens R. C., Jersey City, N. J.
First Presbyterian, Connellsville, Pa.
First Baptist, Greenville, S. C.
M. E. Church, Fond du Lac, Wis.
Pilgrim Congregational, Milwaukee, Wis.
St. Mary's R. C., Perth Amboy, N. J.
First Congregational, Evanston, Ill.

X-Ray Indirect Lighting,
Rugby School, Rugby, England

X-Ray Indirect
Lighting,
Lincoln High
School,
Lincoln, Neb.

X-Ray Indirect Lighting.
Boys' High School, New Orleans

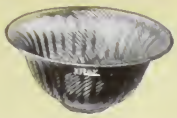
WHERE the eyesight of the students is at stake, X-Ray Lighting has been selected as a measure of protection. It provides uniform and properly diffused lighting, eliminates visible light sources between the students' eyes and the blackboard and lessens the glare from polished desks, glossy papers, etc. In class rooms, study halls, libraries, auditoriums and laboratories it gives ample illumination without eye injury. The splendidly planned modern schools are adopting X-Ray Lighting in increasing numbers to conserve the vision of the coming generation. Some cities, notably Detroit, Mich., and New Orleans, have standardized this lighting. These schools are among the many equipped:

New York University, New York City
Michigan Agricultural College, E. Lansing, Mich.
University of Minnesota, Minneapolis
Chicago Normal, Chicago
University of Nebraska, Lincoln, Neb.
Dartmouth College, Hanover, N. H.
Armour Institute, Chicago
University of Wisconsin, Madison, Wis.
University of Illinois, Urbana, Ill.
University of Pennsylvania, Philadelphia, Pa.
Bancroft School, Lincoln, Neb.
Boys' High School, New Orleans, La.
Sanger High School, Fresno, Cal.
High School, Waupaca, Wis.
Hawley High School, Hawley, Pa.
Norfolk High School, Norfolk, Va.
Lincoln High School, Lincoln, Neb.
Bangor High School, Bangor, Maine
East High School, Minneapolis, Minn.
Three Detroit High Schools, Detroit, Mich.
Lansdowne Public School, Lansdowne, Pa.
Public School, Ft. Dodge, Iowa

X-Ray Indirect Lighting. Ward, City Hospital, Indianapolis

X-Ray Indirect Lighting, Operating Room, Isolation Hospital, Milwaukee

X-Ray Indirect Lighting, private room, Hotel Dieu Hospital, New Orleans

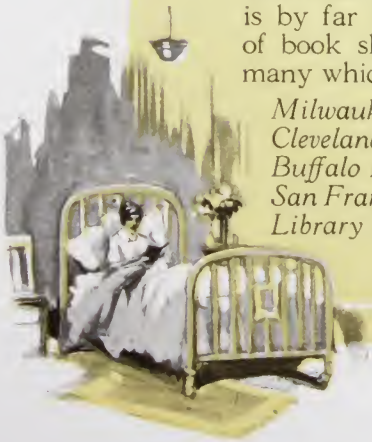


HOSPITAL managements have come to the realization of the importance of eye-resting illumination for their patients, whose weakened condition makes eye-strain far more dangerous, not only to their eyes, but to their general condition. X-Ray Lighting eliminates the blinding glare which injures the patient's sight, renders him restless and nervous and retards his recovery. It is invaluable in fever cases, where strong light may result in blindness. In operating rooms, where high intensity without shadows is the ideal lighting, X-Ray illumination gives the greatest satisfaction. It is the nearest approach to daylight obtainable. This lighting is installed in the private rooms, wards, corridors or operating rooms of these hospitals:

Army and Navy Gen'l Hospital, Hot Springs, Ark
City Hospital, Indianapolis, Ind.
Chapin Memorial Hospital, Springfield, Mass.
Harper Hospital, Detroit, Mich.
Winnipeg General Hospital, Winnipeg, Canada
Mt. Sinai Hospital, Milwaukee, Wis.
Hotel Dieu Hospital, New Orleans, La.
University Hospital, Augusta, Ga.
Lake View Hospital, Chicago

Libraries are adopting X-Ray Lighting because it gives the best light for reading—adequate, evenly distributed, glareless and restful—and because it is by far the most successful for the illumination of book shelves. These libraries are among the many which have installed X-Ray Lighting:

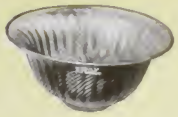
Milwaukee Public Library, Milwaukee, Wis.
Cleveland Public Library, Cleveland, Ohio
Buffalo Public Library, Buffalo, N. Y.
San Francisco Public Library, San Francisco, Cal.
Library of Congress, Washington, D. C.



X-Ray Indirect Lighting from art lamps, Hyde Park Hotel, Chicago

X-Ray Indirect Lighting, Palace Theatre, Milwaukee

X-Ray Indirect Lighting from pedestal, Copley-Plaza Hotel, Boston



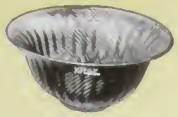
HOTELS, theaters and restaurants rely very greatly upon the charm of their lighting in satisfying their patrons. To attract the crowds, novelties in fixture design and in color effects are much sought. In addition to the hanging bowl type fixture as used in the Palace Theatre, pictured opposite, the special fixtures which this company has designed for illumination from other than ceiling outlets have been used with wonderfully beautiful effect in many places of entertainment. X-Ray Lighting is installed in the following theaters and hotels:

Traymore Hotel, Atlantic City
Auditorium Hotel, Chicago
Hotel Radisson, Minneapolis, Minn.
Beverly Hills Hotel, Los Angeles, Cal.
Blackstone Hotel, Chicago
Hotel Severin, Indianapolis, Ind.
Congress Hotel, Chicago
Hotel Vista Del Anoyo, Pasadena, Cal.
Grove Park Inn, Asheville, N. C.
Benish Restaurant, St. Louis, Mo.
Edgewater Beach Hotel, Chicago
Belasco Theatre, Stage Lighting, New York City
Colonial Theater, Indianapolis, Ind.
Trianon Theater, New Orleans, La.
Harris Theater, New York City
Erie Amusement Co., Philadelphia, Pa.
American Theater, Salt Lake City
Princess Moving Picture Theater, Edmonton, Can.
Colonial Theater, Washington Courthouse, Ohio
Palace Hippodrome, Milwaukee, Wis.
Holderness Theater, Hull, England
Crystal Theater, Milwaukee
Cameraphone, Cleveland
Lyric Theater, St. Louis, Mo.
Princess Theater, Washington, D. C.
Palace Theatre, Chicago

X-Ray Indirect Lighting, The Hub, Chicago

X-Ray Indirect Lighting, Public Library, Milwaukee

X-Ray Indirect Lighting, Court Room, City Hall, Hartford, Conn.



IN stores, where attracting the crowds depends so much upon advantageous display, X-Ray Lighting is being universally adopted. Its near approach to daylight makes it highly desirable in representing true color values and its adequacy produces the inviting, brightly lighted interior which draws trade to a store. It lessens eye-strain, headaches and irritability of clerks and increases their efficiency. Among the stores now lighted by the X-Ray method are:

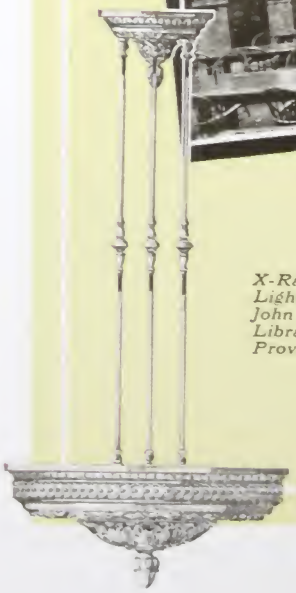
Chas. A. Stevens & Bro., Chicago
L. S. Ayres & Co., Indianapolis, Ind.
Miller-Paine Dry Goods Co., Lincoln, Neb.
Linn & Scruggs, Decatur, Ill.
Miller, Rhoads & Swartz, Norfolk, Va.
H. H. Block, Indianapolis, Ind.
Kline Cloak Co., St. Louis, Mo.

In public buildings X-Ray Lighting has been selected to carry out the lofty appearance and imposing effect which are so desirable in a building of this character. It displays the decorations of such rooms to best advantage, and illuminates uniformly a ceiling broken up by arches or other architectural details. Among the public buildings in which this artistic light is used are:

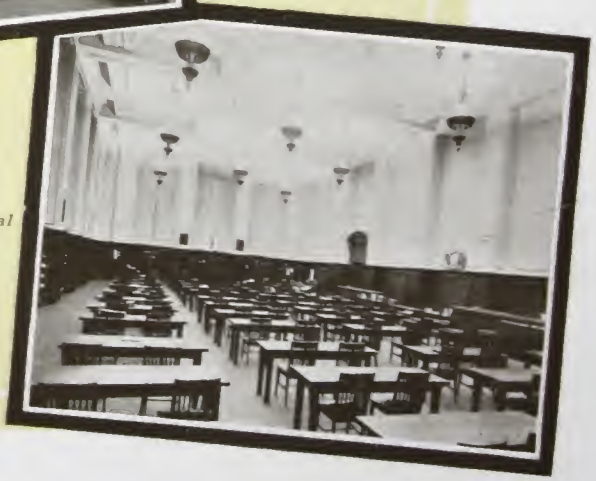
Multnomah County Court House, Portland, Ore.
City Hall, Hartford, Conn.
Museum of Art, Cleveland, Ohio
City Hall, Eau Claire, Wis.
Law Courts Building, Winnipeg, Canada
City Hall, Milwaukee, Wis.
City Hall, Elkhart, Ind.

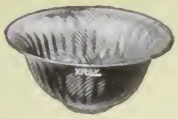
X-Ray Indirect Lighting, Library of Congress, Washington, D. C.

X-Ray Indirect Lighting, Public Library, Milwaukee



X-Ray Indirect Lighting, John Hay Memorial Library, Providence, R. I.

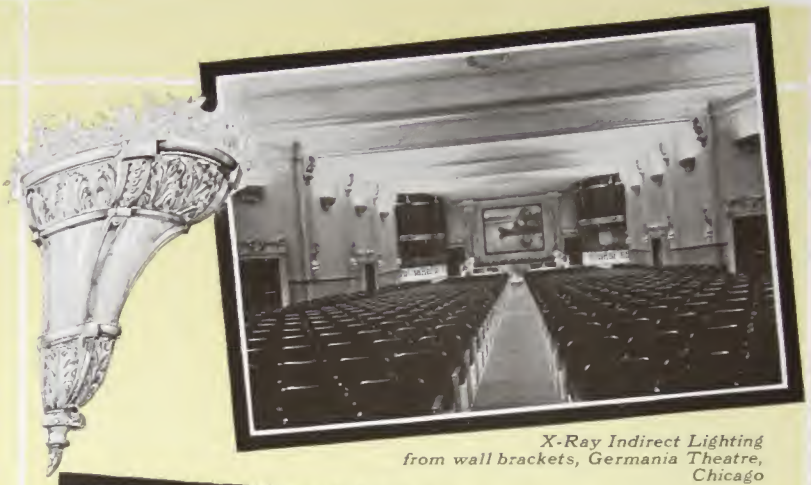




SO many and varied are the uses of X-Ray Lighting that in every other field of lighting—banks, libraries, public buildings, homes—you will find many notable examples of X-Ray illumination. From every standpoint this light has proved itself the most desirable—in quantity, in quality, in beauty. It is economical in current consumption; and it is a permanent investment, as against other lighting methods, which unquestionably will soon be antiquated. And, most important of all, it is, by scientific proof, far and away the best light for eye comfort, eye efficiency and eye preservation.

All the divisions of X-Ray Lighting have been covered in a series of special booklets, which will be sent to those interested in any particular branch of X-Ray Indirect Illumination. These booklets include information on the lighting of:

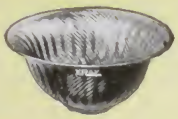
Residences
Offices
Churches
Banks
Theatres
Stores
Schools
Hospitals
Libraries
Restaurants
Public Buildings
Clubs
Hotels



X-Ray Indirect Lighting
from wall brackets, Germania Theatre,
Chicago

X-Ray Indirect Lighting
from art lamps, Barbara Fritchie
Candy Shops, Chicago

X-Ray Indirect
Lighting,
Masonic Room,
Auditorium
Hotel,
Chicago



YOU can have this light—and the service that goes with it, a scientifically planned illumination for your home, your office, your church, your club or your children's school. Your architect can design your fixtures and include X-Ray Reflectors in them. Or you can have them specially designed by our fixture department, if you want something different from our attractive standardized fixtures. Our illuminating engineers will figure the correct illumination and suggest the lighting arrangement for any building or room. Whether or not you follow these recommendations, there is no charge for this service. It is a service we are glad to render, to insure scientifically correct illumination and to advance the cause of good lighting throughout the country.

* * * *

In conclusion: No matter what your lighting problem may be, it resolves itself into this one question:

What are you really buying?
Is it fixtures—or is it ILLUMINATION?

If illumination is what you want, X-Ray Lighting will be your choice.

* * * *

F-Bar Column Control Lighting
St. Barbara Cathedral, Helena, Montana

Let Our Engineers Plan Your Lighting

NO CHARGE—NO OBLIGATION TO FOLLOW THEIR RECOMMENDATIONS

YOU can have scientific illumination without extra expense—an engineered lighting plan without charge. Fill out this sheet with the information requested and return it to us. The same engineers who have planned the beautiful lighting installations illustrated in this book will plan your lighting, based on the most scientific lighting practice and the purpose for which the room is intended. By following this plan you are sure of having adequate, eye-saving illumination. This service is not alone for purchasers of X-Ray Lighting. It is free to anyone interested in securing the best possible illumination for any purpose.

*What is room or building used for?*_____

_____

*Size of room*_____*ft. long,*_____*ft. wide.*

*Height of ceiling*_____

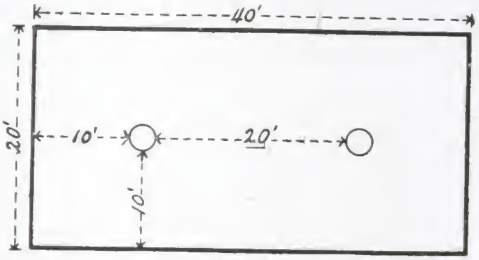
*Kind of ceiling, flat*_____*beamed*_____

*curved*_____*skylight*_____

*Color of ceiling*_____*walls*_____

*Has wiring been done?*_____

_____



Sample sketch of floor plan of a room 20x40 feet, showing where the two electric outlets now in are located.

Draw rough diagram of floor plan below—like sample above—of each room.

WITHIN the compass of this book it is impossible to show the full scope of the National X-Ray Reflector Company in the field of illumination. Indirect lighting is only one branch of this institution.

For many years it has led in illumination from concealed sources for show window and show case lighting. Sixty-two per cent of the show windows on State Street, Chicago's great shopping center, are X-Ray lighted. Merchants from one end of the country to the other know X-Ray Lighting as the highest type of show window and show case illumination.

In industrial lighting, where direct lighting has been advisable, X-Ray Reflectors are in widest use in shops, factories, gymnasiums, etc. These reflectors shield the lamps and protect the eyes from glare, at the same time giving a well-diffused, clear, adequate illumination.

Flood lighting at night, the great new lighting idea, typified by the night lighting of the Woolworth Tower, Niagara Falls, the Statue of Liberty, whose tremendous publicity value has taken the country by storm, is dominated by X-Ray Reflectors. Buildings, towers, monuments, signs, are flooded by a brilliant illumination which emphasizes them most strongly against the surrounding darkness. It is X-Ray Flood Lighting which has made the Woolworth Tower so much talked about.

The chart shown here gives an idea of the number and variety of lighting problems which the X-Ray Company is prepared to successfully solve.

National X-Ray Reflector Company

CHICAGO
235 W. Jackson Boulevard

NEW YORK
21 West 46th Street

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